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NSB Kings Bay Administrative Record
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ASEA BROWN BOVERI

March 23, 1995
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Commanding Officer
Southern Division
Naval Facilities Engineering Command
2155 Eagle Drive
North Charleston, SC 29418

Attention: Anthony Robinson
Code 18511

Subject: Second Revision to April, 1995 Groundwater Sampling Event

Reference: NSB Kings Bay, Georgia
Contract Task Order 094
Prime Contract Number N62467-89-D-0317

Dear Mr. Robinson:

Based on our recent conversations, review of our first revision to the April sampling event (letter dated March 15, 1995), and Southdiv's technical directive, ABB-ES has revised not only the scope of the April sampling event, but its objective as well.

As we discussed yesterday, ABB-ES was originally tasked to complete two similar groundwater sampling events, one in September 1994 and one in April 1995 and compare the data in a Technical Memorandum to assess the changes in the plume as a result of the Interim Measure System operation. However, because (1) some monitoring wells have not shown significant changes between the April and September 1994 events, (2) this sampling program is not regulated by GEPD, and (3) the technical focus of our project has shifted from delineating the entire plume to assessing the hot-spot, we have changed the scope of the April 1995 sampling event. This change will result in ABB-ES not producing a Technical Memorandum relative to IM system operation. In addition, the upcoming deliverables including the SRFI report, CMS, and risk assessment, will use groundwater data up to and including the September 1994 event which will be the last complete set of data for all monitoring wells. If available and appropriate, the April 1995 groundwater data will be incorporated into the SRFI report.

The primary objective of the April 1995 sampling event will now be to provide groundwater data for contaminants of concern in the area of the hot-spot in support of the proposed treatability study and to assess pumping effects on the hot spot area. Secondarily, downgradient monitoring wells in the neighborhood will be monitored to assess bio-degradation rates, and to continue the important task of monitoring plume movement beyond the capture zone in this direction. Monitoring wells upgradient of the landfill and some co-located wells will not be sampled. In addition, SVOC analyses have been removed from several wells, and the only metals to be analyzed include cadmium and lead in wells where these metals have exceeded MCLs. Based on the above rationale, 22 of 35 monitoring wells have been removed from the proposed April sampling event. In addition, only VOCs and cadmium will be analyzed in the 13 remaining monitoring wells, and lead in KBA-11-2. SVOCs and Pesticides/PCBs will be analyzed only from wells where these compounds have been previously detected at levels of concern. Although SVOCs have been detected in many other wells, the analytes detected, (in particular bis-2-

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Ethylhexyl-phthalate) are either believed to be sampling artifacts or are at concentrations that are not an immediate concern and can be resampled later. Table 1 provides the proposed sampling locations and associated parameters for the April event. Also, because the April data will not be compared directly with prior sampling events from a compliance/monitoring standpoint, laboratory data will be reported in Level C data packages instead of Level D packages.

Consistent with the technical directive and revised objective of the April sampling event, seven piezometers and the five recovery wells have been added to the sampling program. The piezometers selected for sampling are all 2-inch diameter and were installed similarly to the monitoring wells so sample integrity should be adequate. The seven piezometers are all located near the identified contaminant plume and/or recovery wells and should help better define the plume hot-spot and provide data for assessing natural biodegradation and the effects of pumping. These 12 additional locations will be sampled for VOCs and a suite of "bio-technology parameters". These parameters, listed on Table 1, have been selected to assess biodegradation rates and the type of natural degradation that is occurring. The bio-technology parameters will also be analyzed in the 13, KBA-11-series monitoring wells proposed for the April event.

Figure 2-1 from the IM Technical Memorandum has been provided because it shows locations of the recovery wells and piezometers in addition to the 35 monitoring wells. Large dots have been used to indicate the proposed sampling points for the April event. Locations are concentrated around the identified hot-spot area and in downgradient locations.

The following summarizes the changes discussed above:

- The sampling objective has changed from producing a data set similar to that provided in September 1994 for comparison purposes, to focussing on the plume hot-spot, analyzing only for identified contaminants of concern, and to assess natural biodegradation rates by analyzing for a suite of bio-technology parameters.

- A net reduction of 10 sampling locations has resulted from the change in objective. Twenty-two monitoring wells were removed, and seven piezometers and five recovery wells were added to focus on the plume hot spot and the effects of IM system operation on the plume.

- Only seven monitoring wells in the proposed April sampling event will be analyzed for SVOCs. Cadmium (and lead in KBA-11-2) will be the only metal analyzed in samples from the monitoring wells.

- Bio-technology parameters will be analyzed in all 25 proposed sampling locations to assess natural bio-degradation rates.

This sampling program can be performed for a total cost below the existing budget for the April sampling event. First, 10 locations have been removed resulting in cost reductions in both laboratory fees and the

level of effort needed to sample these wells. Second, SVOCs and the full suite of metals will not be analyzed in many of the 25 sample locations that are proposed. The costs for the bio-technology parameters were not originally budgeted, but these costs are significantly lower than the costs for VOC and SVOC analyses that have been removed from the original budget.

We are comfortable that this sampling program will provide us with a set of data that will assist us in better defining the plume hot spot and understanding natural biodegradation processes. It will also provide the valuable data needed to assess plume migration beyond the IM system capture zone. I will discuss this program with Mike Maughon when he returns on Friday.

If you have any questions or need additional information please call Laura Harris or me.

Sincerely,

ABB ENVIRONMENTAL SERVICES, INC.

Laura B. Harris, P.G.
RFI Technical Lead

Theodore W. Taylor, P.G.
Task Order Manager

attachments

pc: Sandi Mukherjee
Mike Maughon

TABLE 1
NAVAL SUBMARINE BASE KINGS BAY GEORGIA
APRIL 1995 GROUNDWATER SAMPLING EVENT

Location KBA-11-	VOC CLP	CLP SVOC	CLP PEST/PCB	Cadmium	BIO-TECHNOLOGY PARAMETERS
18	X			X	X
20	X			X	X
3C	X			X	X
21	X			X	X
19B	X	X		X	X
2	X			Pb only	X
3A	X			X	X
17B	X	X		X	X
13A	X	X		X	X
22B	X	X	X	X	X
10B	X	X	X	X	X
16	X	X		X	X
3B	X	X		X	X
PS-3	X				X
PS-5	X				X
PD-6	X				X
PS-7	X				X
PS-8	X				X
PS-9	X				X
PS-10	X				X
RW-1 thru RW-5	X				X

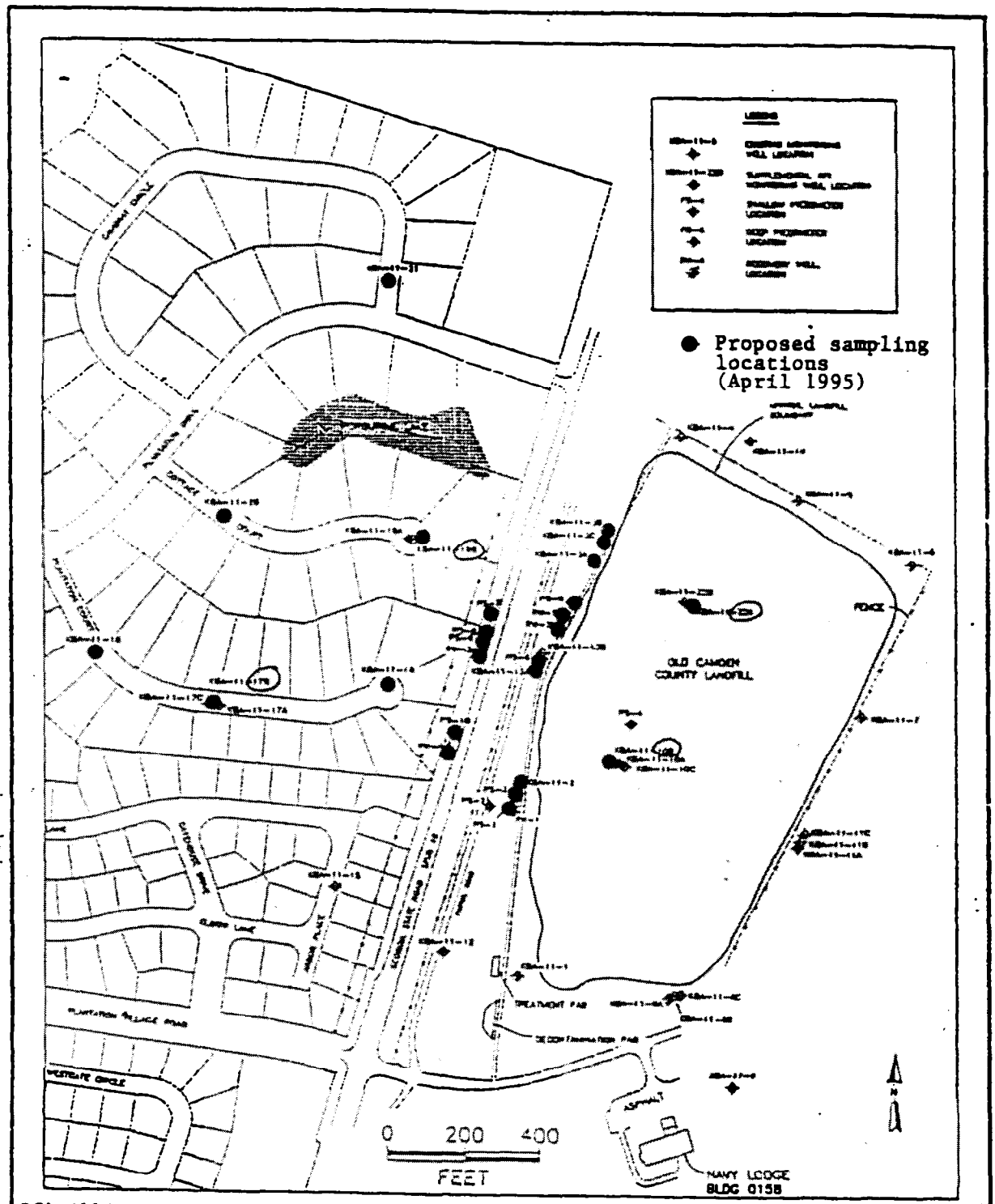
NOTES:

1) "Bio-technology Parameters" include: sulfate, sulfide, nitrate, ammonia, chloride, methane, ehtane, and ethylene, dissolved oxygen, pH, and re-dox potential.

In addition, bromide will be analyzed in KBA-11-3B, 13A, and PS-3 to assess its suitability as a tracer compound.

2) CLP data will be Level C

3) QA/QC samples will be obtained at the required frequency.



DWN: NLW	PROJECT NO.: 08503	TITLE: MONITORING WELL, RECOVERY WELL, AND PIEZOMETER LOCATIONS	IM TECHNICAL MEMORANDUM
CHKD: KDS	FIGURE NO.: 2-1		NAVAL SUBMARINE BASE KINGS BAY, GEORGIA
DATE: 3/20/94			

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